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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,699	03/23/2004	Satoru Okamoto	10746/39	5620
26646	7590	10/17/2007		
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			EXAMINER RYMAN, DANIEL J	
			ART UNIT	PAPER NUMBER
			2616	
			NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@kenyon.com

Office Action Summary

Application No.

10/807,699

Applicant(s)

OKAMOTO ET AL.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application:
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/253,458.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/28/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 28 June 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 25 recites: "means for converting the packets into a signal which is a transmission unit in a synchronous digital transmission standard and for sending the signal by said synchronous digital transmission; and means for converting said signal into the packets." This literally requires the transmission device to transmit a signal and then covert *the very same signal* into packets. Similarly, claim 27 recites: "transmission device comprising: . . . means for sending the signal by said synchronous digital transmission; and . . . means for separating at least one overhead from said signal, means for generating data streams by demultiplexing data of said signal without the overhead and means for extracting the packets from the data streams"; claim 30 recites: "means for sending the signal by said synchronous digital transmission and means for converting said signal into the packets"; and claim 32 recites: "means for sending the signal by said synchronous digital transmission; and a second circuit including means for separating at least one overhead from said signal, means for generating data streams by demultiplexing data of

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said signal without the overhead and means for extracting the packets from the data streams”.

Again, these recitations literally require the transmission device to transmit a signal and then convert *the very same signal* into packets. The specification does not provide proper antecedent basis for the requirement that the transmission device transmit a signal and then convert this signal into packets.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 28, 29, 33, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 28 recites: “transmission device for transmitting packets by converting the packets into an STM signal . . . [through] packet mapping means for mapping a plurality of packets into an entire section payload area of the STM signal”. Claim 28 further recites: “packet retrieving means for extracting said each packet from the section payload area.” It is unclear how the transmission device transmits the packets after converting the packets into an STM signal by extracting the packets from the section payload area through packet retrieving means. Simply, the packet retrieving means belongs in an STM receiving device which receives the transmitted STM signal, such that it is not required for the transmission of the packets. Examiner further notes that the phrase “said each packet” in line 5 requires the packet retrieving means to extract the *very same* packets that the mapping means has mapped to the STM signal. Applicant should amend the claim to clarify that the packet retrieving means is directed to reception of an STM

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signal and to clarify that the packet retrieving means on a device does not operate on the STM signal that the device intends to transmit.

6. Claim 33 recites: "transmission device each of which comprises packet mapping means for mapping a plurality of packets into an entire section payload area of the STM signal". Claim 33 further recites: "packet retrieving means for extracting said each packet from the section payload area." It is unclear how the transmission devices transmit the packets after converting the packets into an STM signal by extracting the packets from the section payload area through packet retrieving means. Simply, the packet retrieving means belongs in an STM receiving device which receives the transmitted STM signal, such that it is not required for the transmission of the packets. Examiner further notes that the phrase "said each packet" in line 5 requires the packet retrieving means to extract the *very same* packets that the mapping means has mapped to the STM signal. Applicant should amend the claim to clarify that the packet retrieving means is directed to reception of an STM signal and to clarify that the packet retrieving means on a device does not operate on the STM signal that the device intends to transmit.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 22, 24, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueda et al. (USPN 5,359,600).

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9. Regarding claims 22, 24, and 36, Ueda discloses a circuit and method for converting an STM signal in SDH transmission into packets (col. 2, lines 38-46, where the STM signal is converted into ATM cells, i.e. packets, see also col. 3, lines 33-36), wherein said circuit is used in a transmission device for transmitting packets (col. 1, lines 9-10, where switching systems are transmission devices for transmitting packets), said circuit comprising means for and said method comprising the steps of: separating at least one overhead which is necessary for said SDH transmission from said STM signal (col. 2, line 63-col. 3, line 3, where the STM overhead is separated from the STM signal); generating data streams by demultiplexing data of said STM signal without the overhead (col. 2, lines 38-46, where the STM signal is decomposed into lower levels, i.e. data streams, see also col. 3, lines 33-36); and extracting the packets from the data streams by using at least one data link layer process (col. 2, line 63-col. 3, line 3, where the ATM cells are extracted).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 19, 21, 25, 27, 30, 32, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. (USPN 5,359,600) in view of Romeijn (USPN 5,457,691).

12. Regarding claims 19, 21, and 35, Ueda discloses a circuit and method for converting packets into an STM signal in SDH transmission (col. 1, lines 61-63, where a series of data ATM cells, i.e. packets, are converted into an STM-N frame), wherein said circuit is used in a

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transmission device for transmitting packets (col. 1, lines 9-10, where switching systems are transmission devices for transmitting packets), said circuit comprising means for and said method comprising the steps of: converting the packets into a plurality of data streams by using at least one data link layer process (col. 2, lines 38-46, where the incoming signal is demultiplexed into a plurality of data streams, i.e. the cells are converted into a plurality of data streams, and col. 3, lines 33-36, where the demultiplexing occurs at the ATM level, i.e. the data link level); multiplexing the data streams by using at least one interleaving process and generating STM data which is a unit of said SDH transmission (col. 2, lines 38-46, where the data streams are multiplexed into a higher level STM signal format, i.e. multiplexing by an interleaving process); and generating said STM signal by adding at least one overhead which is necessary for said SDH transmission to the STM data (col. 3, line 67-col. 4, line 2, where STM overhead is inserted into the STM frame).

Ueda does not expressly disclose multiplexing the data streams without adding any overhead of a VC signal. Rather, Ueda suggests that there will be overhead of a VC signal added since the STM-N signals conform to the CCITT Recommendations G-series. Ueda further discloses that the signals are switched at the ATM cell level (col. 3, lines 33-36). Romeijn teaches, in an STM system, eliminating the VC-4 container overhead (col. 2, lines 55-65) to save time and circuitry that otherwise would be required to build a proper STM-1 frame including VC-4 (col. 3, lines 2-5). Romeijn further discloses multiplexing at the VC-12 level (col. 4, lines 4-7); however, Romeijn recognizes that this results in nine unused columns after multiplexing (col. 4, lines 9-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to eliminate the VC-4's overhead to save time and circuitry. In addition, it

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would have been obvious to one of ordinary skill in the art to eliminate the VC-12 overhead and to multiplex on the ATM cell level to thereby efficiently utilize all bandwidth available in the STM frame.

13. Regarding claims 25 and 30, Ueda discloses a plurality of transmission devices each of which comprises means for converting the packets into a signal which is a transmission unit in a synchronous digital transmission standard (col. 1, lines 61-63, where a series of data ATM cells, i.e. packets, are converted into an STM-N frame, i.e. a transmission unit in a synchronous digital transmission standard), means for sending the signal by said synchronous digital transmission (Fig. 1, ref. 17, and col. 2, lines 33-37, where the STM signal is sent over the optical network), and means for establishing a connection between said transmission devices by using said signal (Fig. 1 and col. 2, lines 50-61, where the switch sends the signals to "adjacent switching nodes"). Ueda also discloses means for converting a signal into the packets (col. 2, lines 38-46, where the incoming signal is converted into packets, see also col. 3, lines 33-36). Ueda does not expressly disclose that the converting means operates on the signal transmitted by the sending means.

However, one of ordinary skill in the art could have combined the sending means and the converting means as claimed by known methods by simply connecting the sending means to the converting means in a single device. One of ordinary skill in the art would have recognized that the results of this combination were predictable, namely that the sending means would transmit a signal comprised of packets and that the converting means would deconstruct the received signal to yield the packets. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the sending means of Ueda with the converting means of Ueda to form a signal from packets and then to deconstruct this signal into its constituent packets.

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14. Regarding claims 27 and 32, incorporating the rejections of claims 19, 21, and 35 and the rejection of claims 22, 24, and 36, Ueda in view of Romeijn discloses a transmission device comprising: a first circuit comprising means for converting the packets into a plurality of data streams, means for multiplexing the data streams without adding any overhead for upper layer transmission, means for generating a signal which is the transmission unit by adding at least one overhead to the multiplexed data streams and means for sending the signal by said synchronous digital transmission, as outlined above in the rejection of claims 19, 21, and 35. In addition, Ueda in view of Romeijn discloses a receiving device comprising a second circuit comprising means for separating at least one overhead from a signal, means for generating data streams by demultiplexing data of that signal without the overhead and means for extracting the packets from the data streams, as outlined above in the rejection of claims 22, 24, and 36. Ueda in view of Romeijn does not expressly disclose that the second circuit operates on the signal transmitted by the first circuit. However, one of ordinary skill in the art could have combined the transmitter and the receiver as claimed by known methods by simply connecting the transmitter to the receiver in a single device. One of ordinary skill in the art would have recognized that the results of this combination were predictable, namely that the transmitter would form a signal from packets and that the receiver would deconstruct the received signal to yield the packets. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the transmitter of Ueda in view of Romeijn with the receiver of Ueda to form a signal from packets and then to deconstruct this signal into its constituent packets.

15. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. (USPN 5,359,600) in view of Romeijn (USPN 5,457,691) as applied to claim 19 above, and

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further in view of Vogel (USPN 6,075,788) and W. Simpson, Internet Engineering Task Force (IETF) Request for Comment (RFC) 1619, entitled "PPP over SONET/SDH" (May 1994).

16. Regarding claim 20, Ueda in view of Romeijn does not expressly disclose that said packets are IP packets which are used for realizing a communication by the Internet Protocol. Rather Ueda in view of Romijn teaches that the packets are ATM cells (Ueda: col. 1, lines 61-63). Vogel teaches in a synchronous digital transmission network, that it is well known to transmit ATM cells directly over the SDH network or to transmit PPP frames directly over SDH, with PPP being an "alternative mode of transmission" (col. 1, lines 23-28). Vogel further refers to IETF's RFC 1619, where this document specifies that PPP is directed to an Internet environment (RFC: p. 1), such that PPP carries IP packets. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the ATM protocol of Ueda in view of Romeijn with the IP / PPP protocols of Vogel, which constitute an "alternative mode of transmission," because one of ordinary skill in the art would have been able to carry out such a substitution, as evidenced by Vogel's teachings, and the results were reasonably predictable, namely the transmission of IP packets over an optical network.

17. Claims 23, 26, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. (USPN 5,359,600) as applied to claims 22, 25, and 30 above, and further in view of Vogel (USPN 6,075,788) and W. Simpson, Internet Engineering Task Force (IETF) Request for Comment (RFC) 1619, entitled "PPP over SONET/SDH" (May 1994).

18. Regarding claims 23, 26, and 31, Ueda does not expressly disclose that said packets are IP packets which are used for realizing a communication by the Internet Protocol. Rather Ueda teaches that the packets are ATM cells (col. 1, lines 61-63). Vogel teaches in a synchronous

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digital transmission network, that it is well known to transmit ATM cells directly over the SDH network or to transmit PPP frames directly over SDH, with PPP being an "alternative mode of transmission" (col. 1, lines 23-28). Vogel further refers to IETF's RFC 1619, where this document specifies that PPP is directed to an Internet environment (RFC: p. 1), such that PPP carries IP packets. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the ATM protocol of Ueda with the IP / PPP protocols of Vogel, which constitute an "alternative mode of transmission," because one of ordinary skill in the art would have been able to carry out such a substitution, as evidenced by Vogel's teachings, and the results were reasonably predictable, namely the transmission of IP packets over an optical network.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system: Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel J. Ryman
Examiner
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Daniel Ryman